

**CLAIMS**

1. An isolated polynucleotide comprising or consisting of:
- 5 (a) a nucleotide sequence of SEQ ID NO: 1 or a modification, variant or fragment (part) thereof;
- (b) a nucleotide sequence having at least 50% identity to the nucleotide sequence of (a);
- 10 (c) a nucleotide sequence capable of hybridising to a polynucleotide according to (a) or (b); preferably under stringent conditions, or
- (d) a fragment of a polynucleotide according to any one of (a) to (c).
- 15 2. A polynucleotide according to claim 1, comprising or consisting of a nucleotide sequence having at least 70% identity with a polynucleotide according to (a), or a sequence hybridising therewith, or a fragment.
- 20 3. A polynucleotide according to claim 1, comprising or consisting of a nucleotide sequence having at least 75% identity with a polynucleotide according to (a), or a sequence hybridising therewith, or a fragment.
- 25 4. A polynucleotide according to claim 1, comprising or consisting of a nucleotide sequence having at least 85% identity with a polynucleotide according to (a), or a sequence hybridising therewith,
- 30 or a fragment.

5. A polynucleotide according to claim 1, comprising or consisting of a nucleotide sequence having at least 90% identity with a polynucleotide according to (a), or a sequence hybridising therewith,  
5 or a fragment.
6. A polynucleotide according to claim 1, comprising or consisting of a nucleotide sequence having at least 95% identity with a  
10 polynucleotide according to (a), or a sequence hybridising therewith, or a fragment.
7. A polynucleotide according to claim 1, comprising or consisting  
15 of a nucleotide sequence having at least 97% identity with a polynucleotide according to (a), or a sequence hybridising therewith, or a fragment.
8. A polynucleotide fragment comprising or consisting of at least 5,  
20 10, 15, 20, 25, 30 or more contiguous nucleotides of a polynucleotide according to any one of the preceding claims.
9. A probe or primer comprising or consisting of a polynucleotide  
25 fragment according to claim 8.
10. A recombinant DNA comprising or consisting of a polynucleotide  
30 sequence according to any one of the preceding claims.

11. An isolated bacterium including a polynucleotide according to claim 1.

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12. An isolated bacterium according to claim 12 identified as *Candidatus Endoecteinascidia frumentensis*.

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